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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Ghisolfi, G.	Docket No. MG029A_US Art Unit: 1772
For: Recyclable Mutlilayer Material in Polyester Resin	Examiner: Marc A. Patterson
Serial No. 09/334,891	**I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office to Fax Number (571) 273-8300 on July 20, 2006.**
Filed: 6/17/1999	Edwin A. Sisson **Edwin A. Sisson**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION #2 OF DR. EDWARD N. NOWAK

I, Edward N. Nowak, PhD, hereby declare that:

1. I am a resident of Hudson, Ohio and am employed as a Senior Staff Regulatory Scientist at M&G Polymers, USA. I have held that position for 4 years.

2. I am not an inventor of the subject matter disclosed or claimed in the subject patent application.

3. My educational background includes an Associate Science Degree in Chemistry from Holyoke Community College (1963); a Bachelor of Science from the University of Massachusetts (1965); and a PhD in Physical Organic Chemistry from the Pennsylvania State University (1970).

4. I have been employed for approximately 30 years by M&G Polymers USA, LLC, Shell Oil Company and The Goodyear Tire & Rubber Company in the capacity of administering compliance with food safety and environmental regulations. Previous to my current position as Senior Staff Regulatory Scientist, I was Staff Regulatory Chemist for Shell Oil Company from 1996 to 2002, Manager, Regulatory Compliance and Competitive

Intelligence for Shell Chemicals from 1992 to 1996, Section Head Toxicology & Regulatory Compliance for The Goodyear Tire & Rubber Company from 1988 to 1992, and Senior Chemist/Group Leader, Toxicology & Regulatory Compliance for The Goodyear Tire & Rubber Company from 1978 to 1988.

5. Prior to working in the regulatory positions delineated in paragraph 4 above, I was a Senior Chemist for The Goodyear Tire & Rubber Company for approximately 10 years.

6. I have served on many industry councils and coalitions including past Chairman of the Program Committee, The Society of the Plastics Industry Food, Drug and Cosmetic Packaging Committee and as a member of the Steering Committee of The Society of the Plastics Industry Food, Drug and Cosmetic Packaging Committee. I have also been a member of the Society of Toxicology and the American Chemical Society.

7. For the past 20 years I participated in shaping the global regulations for food packaging regarding what is and what is not safe and have advised management and scientists as to which materials may or may not be suitable for food packaging based on lack of regulatory recognition and safety. The advice and evaluations have been done on a global basis and includes but is by no means limited to the regulations of the United States, Japan, Canada, Mexico, Brazil, and European countries on an individual basis and as the European Union.

8. A copy of my current resume has already been submitted as part of the record on February 9, 2006.

9. In my February 9, 2006 declaration I stated that I had read the September 9, 2005 office action concerning the above mentioned patent application (Serial No. 09/334,891) and the prior art documents cited by the Examiner as well as the additional prior art document called to the Examiner's attention at that time. Those references were Roulin et al (U.S. Patent 5,508,075), Kimura et al (U.S. Patent 5,972,445), Wilson et al (U.S. Patent 3,170,832), and Wilson et al (U.S. Patent 2,961,418).

10. In my February 9, 2006 declaration, I stated at point 10 that one of ordinary skill in the art of polyester chemistry would not consider the "polyester" of Wilson '832 to be a polyester as defined by Roulin et al. This was based on three reasons found in that declaration. I am restating them here to further clarify this point. These reasons were:

A. The polyesters of Wilson '832 are actually the reaction product of polyester resins with isocyantes and are actually not polyesters at all (Declaration #1, point 10). The reaction products of the polyesters in Wilson '832 with isocyanates are known to those of ordinary skill in the art as polyesterurethanes or polyurethanes. (See Declaration #1, point 10 and also the title of Wilson '418 claiming the materials to be polyesterurethanes). As pointed out in Declaration #1, point 10, Wilson '832 describes the way to make the foamed "polyester resins" at column 1, lines 26-34. In that passage, the polyester resin is mixed with toluene di-isocyanate and water with a catalyst to permit a reaction to produce a foamed product. As noted in Declaration #1, point 10, when comparing Wilson '832 with Wilson '418, it is even more apparent to one of ordinary skill in the art that the polyesters are reacted into different products.[1] One of ordinary skill would read the teachings of Wilson '832 in view of Wilson '418 because the foamed product of Wilson '832 is made using the teachings of Wilson '418 (column 1, lines 20-25). One of ordinary skill in the art would not therefore, consider the foam of Wilson '832 to be a polyester.

B. As stated in Declaration #1, points 10 and 13, if indeed the foamed product of Wilson '832 is a polyester, then that polyester is an aliphatic low molecular weight liquid polyester (see '418 column 1, lines 24, Example 1 '418 column 2, line 18) and cannot be considered, and would not be considered by one of ordinary skill in the art to be the type of polyester called for in the claims of the instant invention which is a polyester selected from the group consisting of polyethylene terephthalate and polyethylene terephthalate copolymers in which up to 20% of the moles derived from terephthalic acid are substituted by units deriving from isophthalic and/or naphthalene-dicarboxylic acid. As explained in my first Declaration at points 12 and 13, both Wilson references state that only certain polyesters ('832 column 1, line 20; '418 column 1, line 25) are capable of being foamed and that these certain polyesters are the reaction product of a polycarboxylic acid with a polyhydric alcohol ('832 column 1, line 16). The polycarboxylic dibasic acids listed are succinic,

[1] The reaction product described in Wilson et al is a polyurethane.

adipic, azelaic ('418 column 1, line 61 and '832 column 2, line 44-45). The polyesters of these diacids are known to those of ordinary skill in the art as aliphatic polyesters, not aromatic polyesters. It is well known to one of ordinary skill in the art that aliphatic polyesters are not aromatic polyesters and that polyethylene terephthalate and polyethylene naphthalate are aromatic polyesters.

C. As stated in Declaration #1, points 12 and 13, if indeed the foamed product is a polyester, the polyester cannot be considered the class of polyesters of the instant invention which is a polyester selected from the group consisting of polyethylene terephthalate and polyethylene terephthalate copolymers in which up to 20% of the moles derived from terephthalic acid are substituted by units deriving from isophthalic and/or naphthalene-dicarboxylic acid because both Wilson references exclude monoethylene glycol, which is the glycol used to make poly-ethylene terephthalate and poly-ethylene naphthalate (Declaration #1, point 10, point 13). Again, both Wilson references state that only certain polyesters ('832 column 1, line 20; '418 column 1, line 25) are capable of being foamed and that these certain polyesters are the reaction product of a polycarboxylic acid with a polyhydric alcohol ('832 column 1, line 16). The polyhydric alcohol is selected from the class described as di-, tri, or polyethylene glycol ('832 column 2, lines 46-47; '418, column 1, line 64-65). Ethylene glycol, which is the glycol used in copolyethlyene terephthalate, is known as mono-ethylene glycol (MEG) and is not one of the glycols considered suitable by either Wilson reference. It is well known to one of ordinary skill in the art that polyesters made using di-, tri, or polyethylene glycol as the primary glycol are not, by definition, considered polyethylene terephthalate or polyethylene naphthalate or their copolymers.

D. Additionally, as one of ordinary skill in the art, I have no reason to substitute either the aliphatic acid of Wilson with the aromatic acid of the instant invention or the higher chain glycols of Wilson for the monoethylene glycol of the instant invention, and I certainly have no reason to substitute both. In fact, I understand Wilson's statement calling for the use of certain polyesters to restrict me to those certain polyesters which would therefore exclude

polyesters having aromatic dicarboxylic acids and/or mono-ethylene glycol cited by Roulin et al or claimed in the instant invention. This leads me to conclude that use of either an aromatic dicarboxylic acid or mono-ethylene glycol would not work in Wilson.

11. I have read the April 20, 2006 office action which responds to my first Declaration. The position taken in the office action is that the term polyethylene glycol as used in Wilson et al encompasses mono-ethylene glycol. This is not how one of ordinary skill would read either Wilson reference, and not how one of ordinary skill in the art understands the meaning of polyethylene glycol. As one of ordinary skill, I understand polyethylene glycol to describe a molecule having one or more oxybisethyl units with two hydroxyl (alcohol) groups attached at the end of its polymer chains. Such a molecule is described as

$HO\text{-}CH_2CH_2\text{-}(OCH_2CH_2)_n\text{-}OH$,
where n is an integer.

In the case of di-ethylene glycol, n is 1 and in the case of tri-ethylene glycol, n is 2. I also base this on my own understanding of the Wilson references, both of which state that the glycol is di-, tri, or polyethylene glycol ('832 column 2, lines 46-47; '418, column 1, line 64-65). This listing is in increasing order of the number of oxyethyl units starting with 1 and then concludes with the class description that excludes mono-ethylene glycol (when n is 0).

12. I declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true and, further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the U.S. Code and that such willful false statements may jeopardize the validity of this application and any patent issuing thereon.

Respectfully submitted,

Edward N Nowak

July 20, 2006 Edward N. Nowak, PhD